



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,929	05/27/2002	Hideki Nishimura	18.008-AG	7799

29453 7590 05/14/2004

JUDGE PATENT FIRM
RIVIERE SHUKUGAWA 3RD FL.
3-1 WAKAMATSU-CHO
NISHINOMIYA-SHI, HYOGO, 662-0035
JAPAN

EXAMINER

WATKO, JULIE ANNE

ART UNIT	PAPER NUMBER
----------	--------------

2652

DATE MAILED: 05/14/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

ppg

Office Action Summary

Application No.

10/063,929

Applicant(s)

NISHIMURA ET AL.

Examiner

Julie Anne Watko

Art Unit

2652

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 6-10 and 21-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-15 and 26-30 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 2.3.
- 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species A, drawn to Fig. 2, claims 1-5, 11-20 and 26-30, in Paper No. 5, filed April 9, 2004, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Because allowable subject matter has been indicated, the Examiner suggests cancellation of the non-elected claims in response to this office action.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 2 objected to because of the following informalities: Claim 2 recites the limitation "said sleeve along its outer circumferential surface being provided with a taper surface constricting in outer diameter according as its separation from said rotor top plate; wherein said oil is retained by a meniscus forming in between said taper surface and the inner-circumferential surface of said rotor circular cylindrical wall." in lines 4-6. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-5 and 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation “said bearing section” in the last 2 lines. It is unclear to which bearing this limitation refers.

Regarding claim 16: See rejection above for claim 1.

Allowable Subject Matter

8. Claims 11-15 and 26-30 are allowed.
9. Claims 1-5 and 16-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
10. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1 and 16 and their dependent claims: The closest prior art of record is Suzuki et al (US Pat. No. 6400052 B1). Although Suzuki et al teach that “oil between the bearing ring 52 and the sleeve 20 is drawn toward substantially central portions between inner edges and outer edges of respective end faces by the herringbone grooves 52b and 52c formed at the upper end face and the lower end face of the bearing wing (*sic*) 52” (see col. 9, lines 16-21), Suzuki et al neither show nor suggest a micro-gap formed continuing between an upper-end face of a sleeve and a bottom face of a rotor top plate in the rotational center of which a shaft is

Art Unit: 2652

constituted integrally; in combination with a micro-gap formed continuing between an inner face of a cover member and an end face of said shaft.

Regarding claims 11 and 26 and their dependent claims: The prior art of record neither shows nor suggests an annular flange portion of a sleeve wherein its outer circumferential surface flares radially outward, in combination with an annular member, projecting radially inward in a location corresponding to said flange portion along its underside, fixedly fitted into an inner circumferential surface of a rotor circular cylindrical wall, a rotor retainer being constituted by engagement of the flange portion and the annular member; wherein said annular member is harder than said sleeve.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ichiyama (US Pat. No. 6456458 B1) shows a disk-drive motor rotating on a magnetically counterbalanced single hydrodynamic thrust bearing, wherein "instead of another hydrodynamic thrust bearing, the reduced axial-height configuration employs magnetic counterbalancing means" (see abstract), such as "shown in FIG. 2A, the magnetic centers 34c and 36c are provided with an axial offset 35 in an axial direction with respect to the shaft 14 of the motor 10. The axial offset 35 is such that the rotor magnet 36 is urged axially downward toward the bracket 22 by the magnetic attraction between the rotor magnet 36 and stator 34" (see col. 8, lines 60-65). Yoshikawa et al (US Pat. No. 6717310 B2) show a spindle motor comprising tapered section 6 of sleeve 5, and flange 11, wherein "At least one of face 16 or face 17 has grooves, for example, herringbone grooves (not shown), thereby forming a thrust bearing which bears an axial load of shaft 8" (see col. 5, lines 2-4).

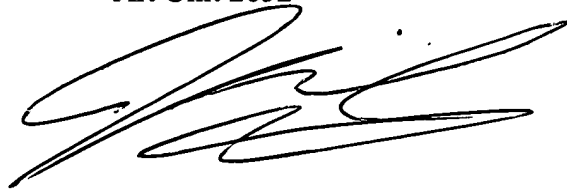
Art Unit: 2652

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (703) 305-7742. The examiner can normally be reached on Sat & Mon until 9PM, Wed & Fri until 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Julie Anne Watko
Primary Examiner
Art Unit 2652



May 12, 2004
JAW